

## **chapter 7**

# **Wastewater Systems**



# Wastewater Systems

## Program Assistance

**Air Regulations** - For questions on air regulations, compliance inspections, or enforcement actions, contact your Region Office Air Program Manager (refer to Chapter 1).

**Applications** - To obtain a municipal or industrial wastewater permit application, call the Watershed Management Applications Team at 512/239-4440.

**Aquaculture Discharges** - For questions about aquaculture discharges, call the Industrial Permitting Team at 512/239-4433.

**Biomonitoring** - For biomonitoring information, call the Toxicity Evaluation Team at 512/239-4422.

**Bypasses/Unauthorized Discharges** - To report sewage bypasses or unauthorized discharges, call your TNRCC Region Office (Refer to Chapter 1).

**Confined Animal Feeding Operation (CAFO) Permits and Enforcement** - For CAFO permits and enforcement, call the Agriculture Permitting and Enforcement Section at 512/239-4710.

**Enforcement** - For wastewater enforcement cases other than CAFOs, call the Watershed Management Enforcement Section at 512/239-4466.

**Fee Invoice** - For questions about fee invoices, call Financial Administration at 512/239-0263 or 512/239-0259.

**Grants and Loans** - For information on state loans or grants for wastewater projects, contact the Texas Water Development Board at 512/463-8509.

**Modeling** - For questions about water quality modeling and wasteload evaluations, call the Water Quality Modeling Team at 512/239-4422.

**National Pollutant Discharge Elimination System (NPDES) Permit Approval** - For information on NPDES permit approval, call EPA Region VI at 214/665-7170.

**Operator Certification** - For wastewater operator certification, call the Occupational Certification Section at 512/239-6140.

**Permit Copies/Files** - To obtain wastewater file records or copies of permits, call Central Records at 512/239-0972.

**Report Forms** - For effluent report forms, call the Watershed Management Enforcement Section at 512/239-4466.

**Rules** - To obtain a copy of rules applying to wastewater, call TNRCC Outreach Services at 512/239-0028 and ask for Publication No. GI-32.

**Standards** - For questions about surface water quality standards, call the Water Quality Standards Team at 512/239-4422.

**Wastewater Permits** - For all other wastewater permits, call the Watershed Management Permitting Section at 512/239-4433.

# Federal and State Authority

## Federal

The Clean Water Act (CWA) requires anyone discharging into United States waters to obtain a federal National Pollutant Discharge Elimination System (NPDES) permit. The EPA Region VI Office (214/665-7170) administers this wastewater permitting program in Texas.

## State

Texas established a wastewater permitting program prior to the federal NPDES program, creating a dual wastewater permitting process in Texas. The State program is codified in the Texas Water Code (TWC) Chapter 26, and administered by TNRCC with one exception: the Texas Railroad Commission issues permits for discharges associated with oil and gas production activities. Although TNRCC and EPA operate separate monitoring, inspection, and enforcement programs, their permit programs are based upon the same water quality standards. TNRCC sets the discharge standards, establishing the effluent limits, discharge points (if any) and other limitations specified in a wastewater permit, and EPA approves them.

## Program Requirements

Any entity that discharges wastewater into, or adjacent to, waters in the State of Texas, including the land disposal of wastewater by means of irrigation, evaporation, and subsurface injection, must have authorization from TNRCC (or the Railroad Commission if the activity generating the wastewater is related to oil and gas). A general description of the permitting process is provided in Chapter 3.

TNRCC strongly encourages anyone who may require a permit or authorization, to discuss it with TNRCC staff well in advance of applying for a permit. This will prevent unnecessary difficulties with processing applications or amendments as

the project develops and allow TNRCC staff to provide technical assistance as needed. Contact the Local Government Assistance Office (800/687-9222 or 512/239-5300) for help.

## Permits and Other Authorizations

### Permits

TNRCC issues two different wastewater permits. "Discharge" permits refer to the direct discharge of wastewater effluent into waters in the State. "No discharge" permits refer to the disposal of wastewater by land irrigation or evaporation. Wastewater permits are required for:

### Municipal/Industrial

Either a discharge or no discharge permit is required for persons seeking to discharge domestic wastewater from both public and private treatment works, from other municipal point sources, or from industrial or commercial point sources. The Watershed Management Permitting Section (512/239-4433) is responsible for processing all Discharge and No Discharge applications for municipal and industrial wastewater permits.

### Confined Animal Feeding Operations

A CAFO is required to apply for a feedlot permit if it exceeds a given number of animals. Smaller CAFO operations are regulated by rule. Most CAFOs are required to obtain No Discharge permits because CAFOs are prohibited from directly discharging into surface waters, except for overflows that result from rainfall events greater than the 25-year, 24-hour maximum. The Agricultural Permitting Section (512/239-4710) will assist you with any questions on CAFO permits.

### Permit Timeframes

The wastewater permit application process has four phases: administrative review, technical review, public notice, and comment on public notice. The amount of time typically required for each stage is:

administrative review	2 weeks
technical review	15 weeks
public notice	1 month
comment period	1 month.

Uncontested permits may be completed within six months. This process could take longer if: a) during the administrative review, staff determines that the information in the application is insufficient and must wait for additional information, b) during the technical review, staff determines the technical information in the application is deficient, or c) the public notice results in a request for a public hearing. In the latter case, jurisdiction over processing passes from the Executive Director and the permitting program to the State Office of Administrative Hearings.

## Other Requirements

### Texas Surface Water Quality Standards

The Texas Surface Water Quality Standards are one of the most important factors in determining the conditions for a wastewater discharge permit and are consulted during the technical review phase of the wastewater permitting process. These standards establish limits on the amount of physical, chemical or biological impurities allowed in water based upon various human and environmental uses for the body of water being protected. They also list upper and lower limits for common water quality characteristics such as dissolved oxygen, temperature, pH, total dissolved solids, fecal coliform bacteria, and toxic materials.

A body of water may be designated for the following uses:

- ▼ Aquatic life habitat (e.g., fishable waters);
- ▼ Contact or non-contact recreation (e.g., swimmable waters);
- ▼ Domestic water supply (including public water supply and aquifer protection);
- ▼ Navigation; and
- ▼ Industrial water supply.

### Notification

After staff complete the technical review of a permit application and a draft permit has been filed with the Chief Clerk's Office, the Clerk will send a Notice of Application (NOA) to the adjoining land owners and the applicant. The applicant must publish this NOA in the local papers at least 30 days prior to any further consideration by TNRCC on the draft permit. A newspaper affidavit certifying publication and

an original newspaper clipping of the actual NOA must be sent to the Chief Clerk's Office.

The Texas Surface Water Quality Standards categorize each stream segment and/or body of water as either a "classified" or an "unclassified" water. Classified waters, also referred to as "designated" segments, are protected by site-specific criteria. Classified waters include most rivers and their major tributaries, major reservoirs, and estuaries. Unclassified waters are those smaller water bodies that do not have site-specific water quality standards assigned to them, but instead are protected by general standards which apply to all surface waters in the state.

### Air Regulations

In addition to the water program requirements noted above, a wastewater facility must also be evaluated for any impact on air quality. No action can legally result in a condition of nuisance smoke, odor, dust or aerosol, cause a traffic hazard, or contribute to a condition of air pollution. Nuisance and traffic conditions are referenced in 30 TAC Chapters 101.4 and 101.5.

There may also be specific air regulations that affect a wastewater permit application. For more information on air requirements, contact the Air Program Manager at your TNRCC Region Office (refer to Chapter 1).

### Authorizations-by-Rule

Certain discharges of boat sewage, meat processing, commercial livestock and poultry production, shrimp washing, remediated groundwater, sand and gravel washing, surface coal mining, and hydrostatic testing water require simple notification to the agency. For a complete description of wastewater activities which may be authorized-by-rule, refer to 30 TAC Chapter 321, or contact the Watershed Management Permitting Section at 512/239-4433.

### Emergency Discharges

Certain temporary or emergency wastewater discharges may be authorized by TNRCC under 30 TAC Chapters 305.21 - 305.30. A person desiring to obtain a temporary or emergency order must submit a sworn application to the Watershed Management Permitting Section including the following:

- ▼ A statement that the discharge will not cause

significant hazard to human life and health, or unreasonable economic loss or damage to property of other people;

- ▼ A statement that the proposed discharge will not present a hazard to the receiving water;
- ▼ An estimate of the proposed date(s) for discharge;
- ▼ A statement of the volume and quality of the proposed discharge;
- ▼ An explanation of measures proposed to minimize the volume and duration of the discharge and measures proposed to maximize the waste treatment efficiency of units not taken out of service;
- ▼ A list of affected parties; and
- ▼ An application fee of \$150.

## Reports

Minimum monitoring, chemical analyses, and reporting requirements are defined in 30 TAC Chapters 309 and 319. Most wastewater permits specify the monitoring requirements for effluent quality and quantity. In general, reporting is required each month. Additional monitoring is sometimes required to assure groundwater protection, especially when effluent is disposed of without discharging to surface water.

## Non-compliance

All permits contain specific requirements for notification and reporting to TNRCC in the case of non-compliance with permit conditions.

## Special Conditions

Some conditions, such as a sludge site at a dedicated land disposal facility, or utility plant water reuse may require other monitoring reports. Contact the Region Office Water Program Manager (Refer to Chapter 1) for any questions on reporting requirements.

## Fees

The TWC specifies the fees that TNRCC may collect to help support wastewater program activities (permitting, inspections, enforcement) or other designated purposes.

## Application Fee

30 TAC Chapter 305.53 describes the fees which TNRCC must receive before processing an application. The fee ranges from \$100 for a minor amendment to an existing permit to \$2000 for applications with discharge flows in excess of one million gallons per day or for major dischargers. The fee can be determined by consulting the rate schedule printed on the front of the application and must be paid when the application is submitted. Revenue from application fees is deposited into the State General Revenue Fund.

## Water Quality Fee

This fee, formerly known as the Wastewater Inspection Fee, is authorized under 30 TAC §§305.501 - .507, which specifies the annual fees collected from each permit holder. The fee charged is determined by a combination of factors, including the facility's status (active/inactive), the quantity of pollutants permitted for discharge, and the permitted discharge flow of the facility. This annual fee currently cannot exceed \$11,000 per permit. Revenues from this Fee help fund the inspection process.

## Water Quality Assessment Fee

The TNRCC also assesses a separate fee for the Clean Rivers Program, as specified in 30 TAC §§320.21 - .22. The Clean Rivers Program, established by the Texas Legislature in 1991, assesses water quality by river basin. Funds collected by this program are passed through to river authorities and other local governments to perform these assessments. An individual fee can-not exceed \$40,000 annually and is calculated by methods similar to the annual Water Quality Fee.

## Inspections

A generic description of the inspection process is outlined in Chapter 3. For more detailed information on any aspect of the inspection process, contact the TNRCC Field Operations Division (512/239-0400) or your Region Office (refer to Chapter 1).



## Types of Wastewater Inspections

**Domestic or Industrial Wastewater Treatment Plant Compliance** - Determines the compliance status of a domestic or industrial wastewater treatment system.

**CAFO Compliance** - Determines the compliance status of the wastewater system and waste handling practices of a CAFO.

**Follow-up** - Evaluates corrective action or collects documentation for enforcement.

**Wastewater Site Assessment for Permit Action** - Verifies information in a wastewater permit application and collects data needed to process the application.

**Complaint Investigation** - Responds to an alleged water quality problem.

## Review of Records

The inspector may examine records, documents, and reports pertaining to the operation of any wastewater treatment system or any discharge of waste. The inspector may pay particular attention to the accuracy and completeness of:

- ▼ Operational records, including process control data and the operator's daily log;
- ▼ Sludge disposal records;
- ▼ Irrigation records, if applicable;
- ▼ Compliance with the "75/90 Rule" for domestic wastewater treatment plants; (violation of the "75/90" Rule" as outlined in 30 TAC Chapter 305.125(a), states that once a facility reaches 75% capacity, planning must begin for expansion; once that facility reaches 90% capacity, expansion must begin);
- ▼ Equipment maintenance records;
- ▼ Certification level of operator(s) for domestic WWTPs;
- ▼ Laboratory methods and quality assurance/quality control if an in-house lab is used (commercial labs are evaluated by a Quality Assurance Officer from the TNRCC Central Office);
- ▼ Biomonitoring sampling procedures, if applicable;
- ▼ Reporting and remediation of any unauthorized discharges;
- ▼ Laboratory and sampling records; and
- ▼ Self-monitoring records, including effluent

reports, flow charts, and flow meter calibration records, if required.

## Visual Inspection of Domestic or Industrial Wastewater Treatment Plants (WWTPs)

For these facilities, the inspector may pay particular attention to the following:

- ▼ Plant modifications;
- ▼ Impact of infiltration/inflow on collection system management and plant performance;
- ▼ Operation and maintenance of the wastewater treatment system;
- ▼ Compliance with flow and effluent limits based on self-reporting data and inspection samples or measurements;
- ▼ Receiving stream conditions;
- ▼ Sludge disposal practices; and
- ▼ Irrigation practices, if applicable;

## Visual Inspection of CAFOs

For these facilities, the inspector may pay particular attention to the following:

- ▼ Number of animals present and authorized;
- ▼ Number and type of retention basins and lining of retention basins;
- ▼ Waste Management Plan approved and adequacy of waste control facilities on-site;
- ▼ Markers and liquid levels in the retention basins and solids accumulation in the retention basins;
- ▼ Availability and operational status of irrigation equipment, irrigation buffer zones, evidence of tailwater runoff;
- ▼ Solid waste discing into the soil and solid waste application buffer zones;
- ▼ Fly control/odor problems;
- ▼ Evidence of any impact on nearby waters;
- ▼ Submittal of required records, such as soil analyses, well data, lining certification, facilities certification; and
- ▼ Reporting and remediation of any unauthorized discharge.

Approximately 50 percent of all major wastewater dischargers and 20 to 30 percent of all minor dischargers are inspected each year. Additional

inspections are targeted on an as-needed basis to ensure that compliance problems are addressed by a permittee, to support enforcement actions, or in response to citizen complaints.

## Enforcement

A general description of the enforcement process is outlined in Chapter 3. If air quality violations are involved, the process is mandated by State law and differs slightly. The violation is either resolved within 30 days from receipt of a notice of violation (NOV), or the matter is referred to Central Office for formal enforcement proceedings. You are advised to contact your Region Office immediately for information on handling violations or to request technical assistance for any inspection violation(s).

## Mandatory Responses

Mandatory enforcement is required by the Texas Water Code (TWC) Chapter 5.117 for wastewater operations which are non-compliant for four months. The criteria for these hearings are:

- ▼ Four consecutive months of non-compliance;
- ▼ Facilities exceeding permit limits by 40% for conventional pollutants; or
- ▼ Facilities exceeding permit limits by 20% for toxic pollutants.

Other violations prompting Central Office enforcement action include:

- ▼ Flow exceedance for permittees who have exceeded their daily average flow for three consecutive months;
- ▼ Failure to pay fees;
- ▼ Failure to submit required reports;
- ▼ Failure to publish public notice during the permit renewal process; or
- ▼ Falsification.

## Administrative Penalties

TNRCC may assess administrative civil penalties of up to \$10,000 per day for violations of the TWC. When assessing administrative

penalties, TNRCC must consider the extent, gravity, and potential impact or hazard of the violation. The penalty may be adjusted based on the following factors:

- ▼ History of noncompliance;
- ▼ Degree of culpability;
- ▼ Good faith efforts to comply;
- ▼ Economic benefit of non-compliance;
- ▼ Enhanced penalty to deter future violations; and
- ▼ Other factors appropriate to the circumstances.

## In Addition

### Frequently Asked Questions

*How long will it take to get my municipal/private domestic permit application approved by the Commission?*

The average permit application can be processed in four months. If there are technical deficiencies (omissions) in the application, processing times will be dependent upon the applicant's response time. If a public hearing is called for by protestants, the approval time may take six months to a year.

*Does an engineer have to fill out a municipal permit application?*

No. Agency Rules do not require that an engineer complete the application. However, the application should be filled out by someone who is very knowledgeable of the facility.

## Other Assistance

Loans, assistance, and grants for construction or improvements to wastewater facilities may be available through the Texas Water Development Board (512/463-8509). The Development Fund Manager's Office may be reached at 512/463-0991.

The State Comptroller's Office also maintains a listing of federal and State funding sources for local governments on its electronic bulletin board, Window on State Government. Chapter 2 provides assistance with accessing this service.

# Significant Laws and Regulations

The following is a brief summary of the federal and state laws and regulations relating to discharging wastes into a body of water. Please refer to the official rules for specific questions regarding compliance and applicability. The TNRCC publication, "Regulatory Resource" (GI-32), contains detailed instructions on obtaining copies of the Agency's Rules (see Appendix 4). The TNRCC Rules are also accessible from the Agency bulletin board. Refer to OnLine Services in Chapter 2 for more information.

## Federal Law

### *Clean Water Act (CWA)*

Prohibits any discharge into U.S. waters without a permit.

Creates the NPDES wastewater permitting system.

## Federal Regulation

### *40 CFR Part 122*

Establishes EPA as the NPDES permit program administrator.

Gives definitions and general NPDES program requirements.

Defines permit application and special NPDES program requirements.

Establishes duration of permits, and schedules of compliance and reporting of monitoring results.

Allows for the transfer, modification, revocation and reissuance, and termination of permits.

## State Laws

### *Texas Water Code (TWC) Chapter 5 Subtitle A*

Describes the general powers and authority of TNRCC.

Includes TNRCC's authorization to adopt rules and procedures and to issue permits to control discharges of waste into or adjacent to water in the State.

### *TWC Chapter 26*

Establishes the State's authority to develop a state water quality plan and to implement that plan through the development of water quality standards and the issuance of permits in accordance with those standards.

Establishes regional assessment of water quality by watershed/river basin and regional water quality implementation.

Defines hearing powers and the hearings process, including hearings on water quality standards.

Includes provisions for temporary and emergency orders and authorizations to discharge untreated or partially untreated wastewater.

Establishes administrative and criminal penalties for violations.

### *TWC Chapter 27*

Authorizes the Railroad Commission to issue wastewater permits for oil and gas activities.

## State Regulations

### *30 TAC Various Chapters*

The main chapters related to wastewater permitting are listed below. For more complete information, call Publications at 512/239-0028 and request Publication No. GI-32.

§ 281 - Applications Processing

§ 305 - Consolidated Permits

§ 307 - Texas Surface Water Quality Standards

§ 309 - Effluent Limitations

§ 310 - Wastewater Reuse

§ 311 - Watershed Protection

A: Lakes Travis and Austin Water Quality

B: Lakes Inks and Buchanan Water Quality

C: Water Quality Management in the Clear Lake Watershed

D: Water Quality Management within Lake Houston Watershed

E: Colorado River Watershed

F: Lakes LBJ and Marble Falls Water Quality

G: Lakes Worth, Eagle, Mountain, Bridgeport, Cedar Creek, Arlington, Benbrook, and Richland-Chambers

§ 312 - Sludge Disposal and Transportation

§ 313 - Edwards Aquifer

A: Edwards Aquifer in Medina, Bexar, Comal, Kinney, Uvalde and Hays Counties

B: Edwards Aquifer in Williamson County

§ 317 - Design Criteria for Sewerage Systems

§ 319 - General Regulations Incorporated into Permits

§ 321 - Authorization-by-Rule